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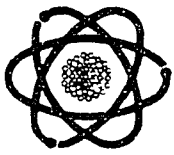
Good Morning! It's Tuesday, August 23, 1983

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Nuclear power plant quality controls questioned

Companies building Callaway facility say warnings of danger without basis

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By Bruce Maxwell
Missourian staff writer



The Callaway Controversy

INSIGHT

REFORM, Mo. — This is not a story of black and white, good and evil. Instead, it is a story of murky grays, of the best intentions sometimes gone astray.

It is a story about fear — the fear that your kindly old family physician may turn out to be Dr. Frankenstein. But the castle in this gothic tale is the Callaway nuclear power plant, whose cooling tower juts out of the horizon 40 miles southeast of Columbia.

Officials of companies building Callaway say fear of the plant is unfounded. They like to call it nuclear phobia. And officials of the U.S. Nuclear Regulatory Commission support the claim that the fear is without reason.

But many observers remain unconvinced. They believe that defective materials and shoddy workmanship could transform the power plant into a lethal nuclear device. They charge that the NRC, which oversees the plant's construction and grants its operating license, hasn't adequately investigated a number of known construction problems. They point to incomplete welding in pipes that supply emergency cooling water to the reactor core, holes in concrete in the reactor building base mat and dome, and faulty welds on steel plates that support equipment critical to safe operation and shutdown of the plant.

And ultimately, they believe, an accident will occur after the plant goes on line in late 1984 or early 1985.

Until November, arguments centering on the potential hazard of having a nuclear plant in Columbia's backyard had an abstract quality; no one seemed to know for sure. Then the NRC released a report describing the hypothetical effect of a so-called worst-case accident resulting from leakage of radiation that cannot be seen, smelled, tasted or felt. It revealed that 11,300 people within a 17.5-mile radius of the Callaway plant could die within a year; 31,200 more within 35 miles of the plant could suffer radiation poisoning. Damage could reach \$110 billion, more than an eighth as much as the entire federal budget for fiscal 1984.

The odds are against such a disaster; a worst-case situation would require a range of factors from a radiation leak to an unusual combination of weather conditions. The NRC considers the possibility of all necessary phenomena occurring simultaneously improbable.

James Konkmin, reactor inspection section chief for the NRC's Region III office in Glen Ellyn, Ill., says Callaway is one of the

two best-constructed plants among the 16 now being built in Region III.

But Konkmin's observation may reflect more on other Region III plants than on Callaway's quality. Region III contains what experts consider two of the worst-built plants in the entire country — Zimmer in Ohio and Midland in Michigan.

Three groups — the Coalition for the Environment, Missourians for Safe Energy and the Crawdad Alliance — have intervened in an effort to block licensing of the Callaway plant. The intervenors charge that quality controls have repeatedly failed to detect deficiencies, including the use of faulty materials, throughout the plant's construction.

The two quality control systems used at Callaway are staffed by inspectors employed by companies building the plant. Quality control is supposed to ensure that construction meets industry codes and federal requirements and that once completed, the plant will operate safely.

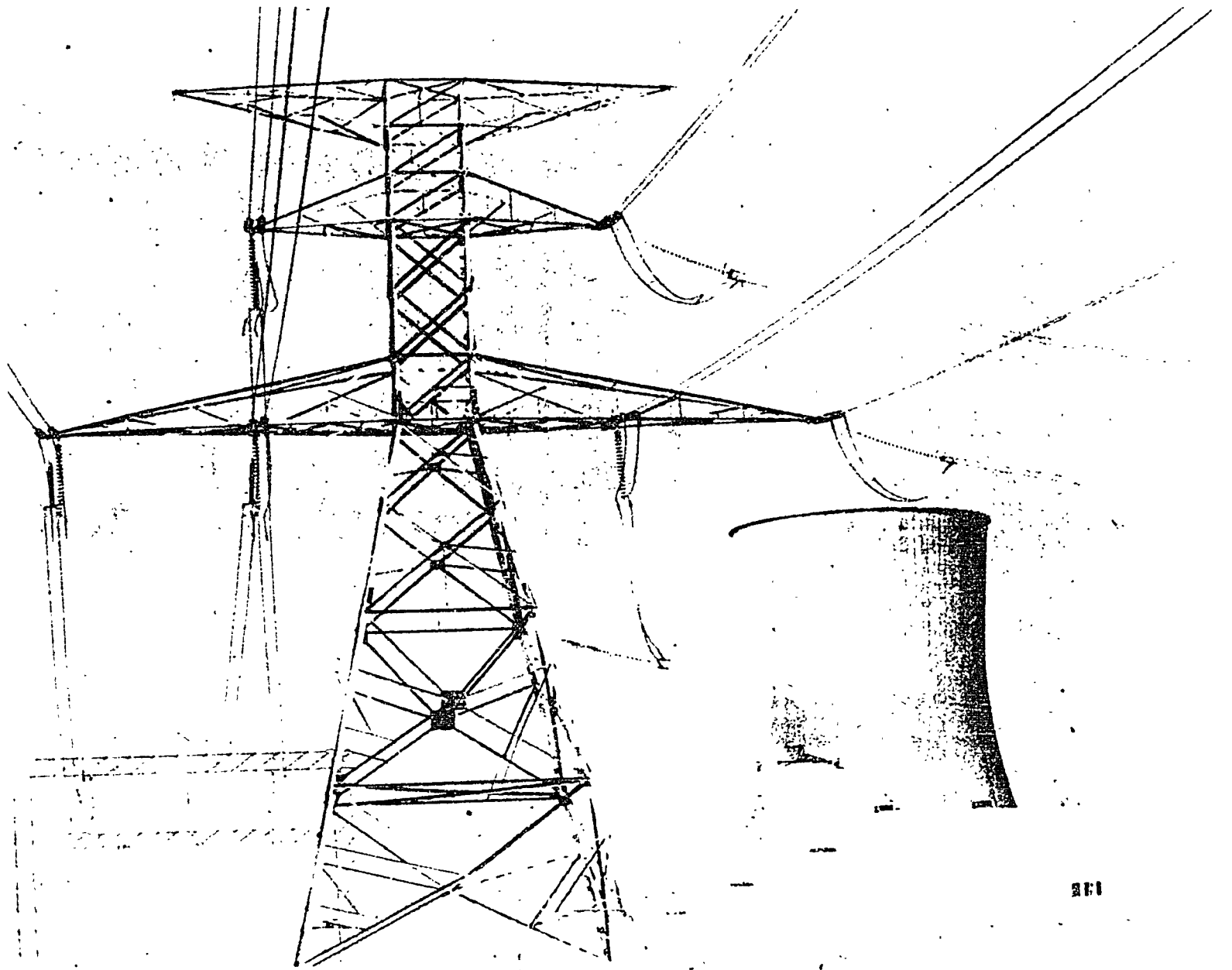
A year-long Columbia Missourian investigation — which included examination of thousands of pages of construction documents and NRC reports, in addition to interviews with several dozen NRC officials, executives of construction companies, critics of Callaway, nuclear power experts from around the country and former Callaway construction workers — has revealed that:

— The NRC found major, ongoing problems with the quality control program at Callaway, most recently in July 1982. On several occasions, defective materials filtered through many layers of the system and were being installed before construction workers discovered the defects.

— The quality control system has had to be constantly revised as problems arose during construction, even though the major firms engaged in building the plant have extensive experience in nuclear plant construction.

— NRC inspections of construction at nuclear power plants have been described as inadequate by other government agencies, its own employees and anti-nuclear activists.

Officials of Union Electric Co. of St. Louis, the utility that owns the plant, have consistently refused to cooperate with the Missouri-



The Callaway nuclear power plant is producing controversy long before it produces power.

A.C. Dickson

ian investigation. A UE vice president in charge of the nuclear division was unavailable for an interview during a month-long period. Written questions submitted at UE's request were not answered; UE said all were answered during licensing hearings for the plant and that it would take too long to respond to the inquiries.

Construction of the Callaway plant, which is now more than 84 percent complete, began in early 1976. The primary firms engaged in the project are Union Electric; Bechtel Power Corp. of California, the lead architect-en-

gineer; and Daniel International Corp. of South Carolina, the contractor.

Bechtel, the third-largest construction firm in the United States, has built more nuclear power plants than any other company. But Bechtel has come under close scrutiny by the NRC in recent months as increasing numbers of construction problems have been discovered at nuclear plants it is building.

At the recommendation of an NRC inspection team, Consumers Power Co. of Michigan took over quality control responsibility in September 1982 from Bechtel, the primary

contractor for its Midland plant. Five months later, the NRC proposed a \$120,000 fine against Consumers for an alleged breakdown in its quality assurance program while the program was being directed by Bechtel.

Bechtel was not involved in construction of the Zimmer plant in Ohio but was called in by Cincinnati Gas and Electric Co. after the NRC ordered construction halted in November because of building defects. The utility wanted Bechtel to recommend how best to

See CONSTANT, Page 8A



Monday's rain provided relief from the heat, but not enough moisture.

Jeff Braland

Respite from heat wave to be brief; temperatures to be back in 90s today

By Mary Kaul
Missourian staff writer

Although Columbians got a respite from the heat Monday with temperatures in the mid-70s, a word to the wise is sufficient: Enjoy it while you can.

The relief from eight consecutive days of over 95-degree temperatures will be short-lived, said Dave Larm of the National Weather Service. While the mercury plummeted within an hour Monday afternoon from a high of 97 to 73 degrees, temperatures are expected to reach into the low 90s this afternoon.

Accompanying the cooler air were scattered light showers in the Columbia area. Although less than 1 inch of rain was recorded by Monday night at Columbia Regional Airport, New Franklin received 2 inches of precipitation, Larm said.

But the rain probably won't help area crops much, scorched from the summer drought.

"It won't do a lot for the corn,"

said Dave Emslie, a spokesman for the Crop and Livestock Reporting Service. "It's past help."

About 85 percent of the corn crop has passed its growth period, Emslie said. The kernels are now in a hardening stage, when rain will have little or no effect on growth.

Storms were accompanied by strong gusts of wind in the area. In Boonville, winds reached 51 mph, and numerous accounts of wind damage from fallen trees were reported in Camden. But at the Columbia airport, winds were recorded at 43 mph and no severe damage was reported, Larm said.

While strong winds caused few problems in Columbia, gusty winds and scattered thundershowers took down power lines late Monday afternoon in east central Missouri. About 25,000 St. Louis area residents were left without power for about two hours, and pea-sized hail also was reported in the area.

Residents can thank Hurricane Alicia for the rain and relief from the sweltering temperatures, Larm said.

Most of the moisture is left over from the high-pressure system that moved up from the Gulf Coast and into the Great Plains during the weekend. It will now swing on the southeast and bring the area mostly sunny skies today and a chance for only isolated showers and thundershowers this afternoon.

In simmering Virginia, it was a record 104 in Roanoke and 102 in Richmond, where the hot temperatures spawned evening thunderstorms that knocked down trees and wires and caved in roofs on a suburban appliance store and a city manufacturing plant.

Tornadoes were sighted near Gathersburg, Md., and Danville, Va., where a late afternoon hail storm blew the roof off a department store. Two people were injured in Brunswick, Md., Monday night when the roof of a bowling alley collapsed during a severe thunderstorm.

Debate on elaborate weapons systems for 1985 budget ongoing at Pentagon

New York Times

WASHINGTON — A debate is raging in the secluded meeting rooms of the Pentagon over how deeply the United States should commit itself, in the 1985 budget and thereafter, to developing new, highly computerized weapons systems.

Advocates, Defense Secretary Caspar W. Weinberger among them, say the systems could revolutionize conventional warfare by the year 2000. This could lessen the likelihood of nuclear war by dramatically increasing America's ability to win a war without using nuclear weapons. But other military and civilian officials fear that weapons so complex would not be reliable, and that radical changes in tactical planning and organization would weaken the military.

The weapon systems would link arrays of advanced electronic, acoustic, optical and other sensors with computers of enormous capacity and, ultimately, with precise mu-

nitions such as missiles with homing devices so accurate that one shot will be as destructive as 10 are today.

One advocate of the systems likened the sensors to human eyes and ears, the computer to the brain, and the precise munitions to the fists. Information about an enemy could be obtained, processed through a computer, and a precise munition fired in millionths of seconds.

In a series of recent interviews, one advocate said high technology "would make the tank obsolete within 10 years." Another said, "No warship will be able to survive on the surface of the sea." A third said tactical enemy aircraft would be effective only if they fired at their targets from far off.

But opposition to high technology in weapons is formidable. Many military officers and senior civilian officials involved in the debate are skeptical of a great technical leap forward; they fear it will leave them with weapons that will not work.

They also say high technology weapons will require the armed forces to reorganize, to work out radically new tactics and redefine the missions of each service, which would disrupt institutions and careers.

Military contractors manufacturing weapons and congressmen in whose districts those weapons are produced cite the large new investments that will be needed, the consequent dislocations to the economy and potential losses or shifts of jobs.

Many West Germans and other Western Europeans fear high technology arms will only make Europe a more lethal battlefield, should war with the Soviet Union erupt. Peace activists say that high technology would stir the Soviet Union to a faster pace in the arms race.

The advocates of high technology in arms are led by Richard D. Delauer, under secretary of defense for research and engineering; James P.

See WEAPONS, Page 8A

Beirut airport shelled; 8 die

United Press International

Syrian forces and Druze Moslem militiamen shelled Christian neighborhoods around Beirut airport Monday, killing at least eight people and injuring 30 others, including the commander of the Italian peacekeeping force in Lebanon.

An Israeli soldier was killed near the ancient Phoenician port of Sarafand, 35 miles south of Beirut, when an Israeli vehicle was bombed, military sources said. The Israeli military spokesman for the area, well inside the planned new Israeli lines, had no information on the attack.

The stepped-up violence followed a campaign by President Amin Gemayel to reach a national conciliation with the "National Salvation Front" opposition group which includes Druze leader Walid Jumblatt.

Flights continued despite shelling of the area around the international airport, which was closed for six days by similar shelling two weeks ago.

Some shells landed around the presidential palace in suburban Baabda, Beirut radio said.

A Lebanese security source said at least eight people were killed and 30 others were wounded in the barrage that enveloped Beirut's Christian sectors and touched Burj Barajne, a Palestinian and Shiite Moslem area.

Phalange radio, broadcasting from the Christian sectors, put the number of dead at 20 but that figure could not be independently verified.

One exploding shell hit a house in Burj Barajne, killing a child, Beirut radio said.

The security source said Druze and Syrian forces fired a five-hour barrage of Soviet Grad missiles and mortar shells into the Christian neighborhoods of Ashrafaye, Dawa, Sin Al Fil and Dikwane.

Gen. Franco Angioni, commander of the 1,500-strong Italian contingent of the four-nation multinational peacekeeping force in Beirut, was slightly injured in Burj Barajne.

Angioni said a rocket exploded 10 yards from his jeep while he was inspecting Italian troops threatened by the bombardment.

Several U.S. Marines, who are based at the airport, had been wounded in previous shelling attacks.

U.S. special envoy Robert McFarlane met with Prime Minister Cheif Wazzan for talks on the imminent pullback of Israeli troops from the Beirut area and the Shouf mountains, Beirut radio reported.

McFarlane returned to Beirut late Sunday from Cairo, where he assured Egyptian President Hosni Mubarak that Israel has no permanent designs on south Lebanon despite its redeployment of troops there along the Awali River.